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ABSTRACT

Project DISC (Developing Indian Software Curriculum) was initiated in the Rapid City (South Dakota) school district to improve Native American children's reading and language arts ability and to provide them with microcomputer skills. During the summer of 1982, introductory computer activities were planned, a computer specialist was hired, and workshops were held for teachers in the two most heavily impacted schools, where the first two computer laboratories would be placed. Each targeted child received 30 minutes of computer assisted instruction (CAI) in language arts each school day. Classes were structured at a 60/40 ratio to avoid children being identified as either belonging to a remedial group, or having the CAI labeled a minority activity. All labs were constructed to measure the same things; e.g., time on task, types of software used, and in-house and out-of-house absences. Test scores after the first 6 months of operation were "statistically significant" in one school and "educationally significant" in the other. Currently, four schools contain computer labs and student and teacher reaction to the project has been very positive. Future plans include adding grades K-6 computer literacy component to each of the four schools, implementing many LOGO activities in the curriculum, and purchasing software that deals with higher-level cognitive skills. A list is provided of computer software, microcomputer peripherals, and written materials available in every lab, and a brochure describing Project DISC is appended. (JB)

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PROJECT DISC

Developing Indian Software Curriculum

Title VII Project, Rapid City Public Schools
Rapid City, South Dakota

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

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BACKGROUND

Rapid City is a town of 65,000 people located at the foot of the Black Hills. Mount Rushmore is 30 miles south and Bear Butte, the holy and sacred mountain of the Cheyenne and Sioux nations, is located 30 miles to the north. There are nine Indian reservations in the state, and the reservation is the psychological and social/cultural center of the lives of many of our students. Although families often move to Rapid City to find work or attend school, weekends and vacations are spent on the reservation. And many of our students actually move back and forth from reservation to city, sometimes several times in the course of a year.

Rapid City has had a many year history of "Indian programs". However, very little difference was noted when the standardized test scores came out each spring. The Title VII director five years ago, Dolores Riley, was very bothered by this. She set about trying to find some way to show gain, not just maintain, these scores. She devised a needs assessment and, assisted by a Parent Committee, canvassed the teachers and parents in "target area" elementary schools, i.e., schools with a significant number of Native American children. She determined that parents and teachers both were the most concerned with reading and language arts scores and this, then, became the discipline to address in the Project. She was also concerned that the minority child would become lost in the new technology age so the idea of the use of technology to address deficits in the learning process of children was born. During the summer of 1982, introductory computer activities were planned, a computer specialist was hired, and workshops were held for teachers in the two most heavily impacted schools where the first two computer laboratories would be placed. Computer aides were given two full weeks of training, and a meeting in early September which includes the entire staffs of both these schools "kicked off" the Project. In nearly every case these workshops were the first computer experiences for teachers, administrators, and aides, and they were extremely valuable.

In 1982, our district offered programming classes at the high school level for students who had completed two years of algebra and a year of geometry, a Computer Literacy Committee had just been formed to investigate the role that computers might play in our schools, one or two Chapter I personnel were using drill and practice tapes, and three (our of 700) teachers were using their own equipment to bring technology into their classrooms. Obviously, the idea of using computers in a lab as an integral part of some elementary students' instruction was an innovative, perhaps even revolutionary, idea.

SET-UP AND OPERATION OF COMPUTER LABS

The computer lab setting was chosen for this educational process for practical

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reasons, As it turns out, it was the best choice. The activities that happen there do not lend themselves to anything less than a complete classroom environment. The Project was written for each targeted child to receive 30 minutes of computer assisted instruction in language arts each school day. The make-up of the classes, however, was kept at a 60/40 ratio to avoid children being identified as either belonging to a remedial group, or having the computer assisted instruction be labeled a "minority" activity. This was beneficial from a couple of standpoints. We were able to provide computer time to all the students in grades 3 through 6 by rotating "non-targeted" students in the "40 percent" section of the computer classes. This gave a measure of self-esteem to the targeted students as they became the "teachers" of how to operate the computer and use the software.

The labs are set up to measure the same things, i.e., time on task, types of software used, in-house and out-of-house absences, etc. Each school was unique in the scheduling format followed however, and we eventually had, and still have, labs in four schools. Certain things were very important in the beginning, such as having a tracking system that would allow teachers and parents to know exactly what a student was working on and when, and a "pencil and paper" follow-up to every learning objective was found or devised because that, too, was considered necessary. The tracking system was used throughout the three year Project history, but has been abandoned this year. The pencil and paper follow-ups were not used after the first year when it was discovered that they had little or no bearing on the test score results. A software review committee formed that first year also was disbanded. The trained curriculum specialist along with aides and students made software decisions quickly and well.

THE RESULTS

Test scores after the first six months of operation were "statistically significant" in one school and "educationally significant" in the other. In that year we added a third lab, and test results that year were the attainment of "statistically significant" growth overall. It is also significant that we have observed no sex-related difference in adaptation to and/or liking of the computer. Very few students do not enjoy the computer or benefit from using it. In fact, in-house absences from the lab were one of the most effective influences on test scores.

TEACHER PLEASERS

1. Children following written directions. . . gladly, even!
2. Children using dictionaries and thesauruses because they have discovered that these really are reference books and not something someone dreamed up to have them do exercises with.
3. Children becoming responsible for their own learning. Self-direction and independent learning are our ultimate goals, aren't they?
4. Children making decisions and seeing the consequences of those decisions without value judgements interfering.
5. Children expecting to assert their individuality into technology, and simultaneously gaining insight and intuition into the way technology can be used. Their expectations are certainly different from ours.
6. Children interpreting their culture with technology.

7. Children and teachers discovering new ways to tackle old tasks.
8. Children being given the time to practice reading in a manner that they find both enjoyable and rewarding. If Sesame Street did not prove to us that edutainment does have a rightful (and successful) place in education, then the computer surely will.
9. Worth being given to children's work, not just its presentation, but its content.

KEYBOARDING

Since the jury remains out on the keyboarding issue, we address it in a practical manner. We ask only that students use both hands on the keyboard -- we make no attempt to teach formal keyboarding. It has been interesting to watch some near-classic styles emerge!

AFTER THE PROJECT'S OVER.....

After the first year and a half of operation, it proved frustrating to be held within the bounds of the Project. It became quite apparent that the addition of LOGO activities and more diverse and intense software packages would be beneficial. Now that we have the freedom to do more than the guidelines would allow, we are adding a K-6 computer literacy component in each of the four schools, we have added many LOGO activities to our curriculum, and we are leaning more heavily into the software that deals with the higher level thinking skills. The local school board is continuing the Project labs, and their curriculum has heavily influenced what the district is adapting in its K-6 program system-wide.

PROJECT DISC

DISCOVERING INDIAN SOFTWARE CURRICULUM

SOFTWARE USED

IN EVERY LAB

Software:
- Bank Street Writer
- Bank Street Speller
- Print Shop
- Mask Maker
- Wordsearch
- Crossword Magic
- AppleLOGO
- Microzines and Wizware packages

Peripherals:
- Koala pad and software
- printer
- joysticks and/or game paddles
- color monitor and one or two green screens for word processing

Written material:
- several dictionaries and thesauruses
- Teaching and Computers (magazine)
- The Computing Teacher (magazine)
- Electronic Learning (magazine)
- Classroom Computer Learning (magazine)

OTHERS:

SCHOLASTIC
- Microzine
- Tales of Discovery
- Wizware
- Operation Frog

LOGO
- Apple LOGO
- E-Z LOGO

MECC
- Volume #7
- Volume #5

HARTLEY
- Parts of Speech
- Wordsearch

SPINNAKER
- In Search of ....
- Delta Drawing
- Story Maker
- Rhymes and Riddles

Hey Diddle Diddle
Snooper Troopers
Kidwriter

LEARNING WELL Following Directions
Inference Game
Sequence
Cause and Effect
Reading for Detail
Fact or Opinion
Contect Clues
Drawing Conclusions
Getting the Main Idea
Magic Castle and Galaxy Search

LEARNING COMPANY All they produce

BANK STREET WRITER Word processor
StoryBook

APPLE Magic Spells
Moptown

DLM All of the Arcademic series

PAL Universal Systems of Education (tracking system)

SUNBURST Many titles (Code Quest, The Factory, The Incredible Laboratory, etc.)

DATA COMMAND Pik-Pet-Put
Riddle Me This

BORG-WARNER Critical Reading Series

ISLAND SOFTWARE Jigsaw
Rubik's Cube
U.S. Map

ED. PUBL. CONCEPTS Steps to Comprehension series

Project
DEVELOPING
INDIAN
SOFTWARE
CURRICULUM

Iya says, "Be dedicated to new educational approaches for the Bilingual/Bicultural Child."

A Needs Assessment of Rapid City's Bilingual/Bicultural Child

1. Evaluate your area
2. Test Scores (Elaborate on all — Ex: CTBS Pre and Post)
3. School Attendance
4. Teacher/Student Attitude
5. Community Attitude
6. Cultural Background or Ethnic Heritage
7. Relevant Curriculum

B Choosing the Right Materials

1. Software geared to needs assessment
2. Hardware to meet specifications of Software (Ex: PAL, Universal Systems of Education, compatible with Apple II plus)
3. Choosing Courseware to match Software
4. Delivery System
   - — Site Selection
   - — Staff Development & Hiring
   - — Training, Continuous Training
   - — Computer - Student Ratio
   - — Nuts and Bolts: i.e. proper wiring, adequate peripherals, entry level of students, monitoring progress, adequate rewards

C Evaluation of Computer Assisted Systems (CAI)

1. Attitude of Staff in Participating Schools
2. Test Results
3. Time on Task
4. Positive Community Relations and Involvement

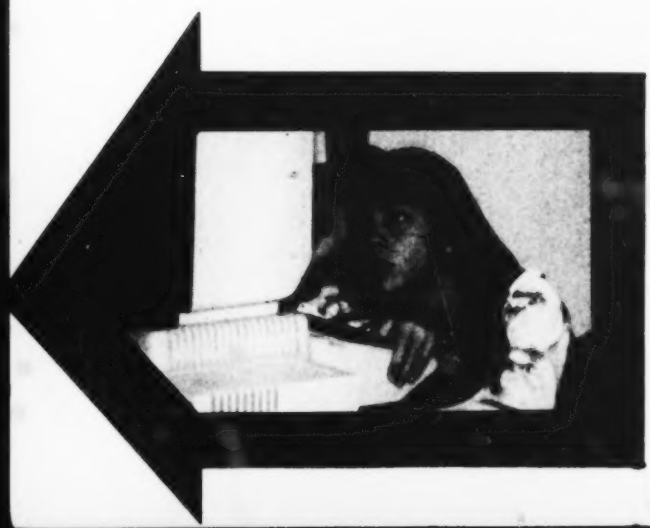
About our Logo...

Iya.

Iya is the huge monster with a voracious appetite found in Lakota folklore. Maybe Pacman originated with the first Americans!

Norman Blue Arm,
Artist

Rapid City, South Dakota
Bilingual Education
Presents
15 steps to implementation of
Computer Assisted Instruction



Project Disc

(Developing Indian Software Curriculum)

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